

FORMATION OF SELF-ASSEMBLED MONOLAYERS ON SILICON SUBSTRATES

ABSTRACT OF THE DISCLOSURE

[0180] This invention provides a new method of forming a self-assembling monolayer (SAM) of alcohol-terminated or thiol-terminated organic molecules (e.g. ferrocenes, porphyrins, etc.) on a silicon or other group IV element surface. The assembly is based on the formation of an E-O- or an E-S- bond where E is the group IV element (e.g. Si, Ge, etc.). The procedure has been successfully used on both P- and n-type group IV element surfaces. The assemblies are stable under ambient conditions and can be exposed to repeated electrochemical cycling.

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